

学術講演会のお知らせ

日時: 8月2日(金)13:20~14:50

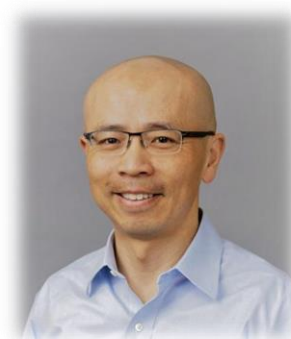
場所: 理学部 Z103 教室

Single-molecule chemistry: from single-polymer sequencing to bacterial efflux

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This presentation will have two parts. In part 1, I will describe our recent work in developing methods to monitor in real time the growth of single synthetic polymers down to single-monomer resolution and determine the microscopic sequences of single copolymer chains. In part 2, I will describe our work in imaging the dynamic assembly of metal efflux complexes in live bacteria and in using mechanobiology approaches to manipulate such protein assemblies in the cell.



Key references:

1. C. Liu,[†] K. Kubo,[†] E. Wang,[†] K.-S. Han, F. Yang, G. Chen, F. A. Escobedo,^{*} G. W. Coates,^{*} P. Chen^{*} “[Single polymer growth dynamics](#),” *Science* **2017**, 358, 352-355.
2. R. Ye,[†] X. Sun,[†] X. Mao,[†] F. Alfonso, S. Baral, C. Liu, G. Coates, P. Chen^{*} “[Optical sequencing of single synthetic polymers](#),” *Nature Chem.* **2024**, 16, 210-217.
3. A. G. Santiago,[†] T.-Y. Chen,[†] L. Genova, W. Jung, A. Thompson, M. McEvoy, P. Chen^{*} “[Adaptor protein mediates dynamic pump assembly for bacterial metal efflux](#)” *Proc. Natl. Acad. Sci. U.S.A.* **2017**, 114, 6694-6699.
4. L. A. Genova,[†] M. F. Roberts,[†] Y.-C. Wong, C. E. Harper, A. G. Santiago, B. Fu, A. Srivastava, W. Jung, L. M. Wang, L. Krzeminski, X. Mao, X. Sun, C.-Y. Hui, P. Chen,^{*} C. J. Hernandez^{*} “[Mechanical stress compromises multicomponent efflux complexes in bacteria](#)” *Proc. Natl. Acad. Sci. U.S.A.* **2019**, 116, 25462-25467.

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